

COOPERATIVE LEARNING: STUDENTS AS EXPERTS AND RESOURCE PERSONNEL IN THE CLASSROOMS

Siowck-Lee Gan

*Institute for Distance Education/ Faculty of Educational Studies
Universiti Putra Malaysia, 43400 UPM, Serdang, Selangor,
Malaysia*

Keywords: cooperative learning, at-risk students, IT in education, computers-in-education.

Introduction

Children at risk are often children who for various reasons are unmotivated to try their best in schools. Many of them are not able to achieve their full potentials because of this lack of motivation. They also lack a sense of self-confidence and self-efficacy. Their self-concept is often low because they feel that they cannot excel in anything in the classroom. The objective of this project was to develop positive self-concept and increase motivation for learning in at-risk children by training them to become IT experts and resource personnel in the classrooms. Pre-planned, structured cooperative learning activities centred around the computer and the Internet would then be used to provide the opportunity for these students to play a more leading and contributive role in the classroom, which hopefully, would help improve their self-concept, motivation for learning, and academic achievement.

Materials and Methods

In each classroom/school participating in the project, the at-risk students were identified and trained in selected IT skills. They were then appointed to be the IT experts in their small heterogeneous cooperative learning groups. These groups were given the task of sourcing for instructional and reading materials related to subject topics pre-determined by their class teachers with the help of the researcher. The resources were obtained either from CD-ROM references or from the Internet. These materials were then used by the teachers for incorporation into learning activities in the classroom. Data pertaining to relevant achievement scores of the at-risk students were collected from the previous year as well as for the duration of the project. At the end of the project, a comparison of students' pre- and post-project achievement scores and profile data was made, and teachers' observations and anecdotal records throughout the duration of the project were also compiled and documented.

Results and Discussion

Findings of the project based on the anecdotal records from teachers show that most of the at-risk students' attitude towards learning and school had improved over the year. They have come to show more interest in their schoolwork, especially the project work; and were more willing to work on

class assignments. Their self-confidence has also improved as evidenced by their readiness to communicate with their teachers and classmates, and to participate in class discussion and presentation.

The effect of the cooperative learning activities on achievement was evidenced by data from only one of the four classes. In that Form 2 class (equivalent to Grade 8), a comparison was made between the end-of-the-year science examination grades of the at-risk students and their grades in the same subject in the previous year's examination. Of the eight at-risk students, it was found that two have improved from E to B, one from E to C, one from E to D, three from D to B, and one from D to C. Since the examinations were criterion-referenced, the improvement in grades was taken to mean that the students have achieved more learning objectives set by the teachers. It was, however, rather disappointing that achievement data were not available from the other three classes.

In general, all four teachers who participated in the study felt that their effort had been somewhat hampered by two major problems. (These problems affected the quality of students' projects, with the result that none of the projects was deemed excellent for publication on the Internet.) Firstly, the computing and Internet facilities in the schools were too limited. Students working on the projects often faced problem of access. Secondly, there was a shortage of relevant reference CD-ROM science titles for secondary school students, and a lot of information on the Internet is often pitched at a level way beyond the grasp of the average students. It is this writer's hope that the first problem will be solved once the Smart Schools Project gets underway and schools are better equipped with the necessary hardware and IT infrastructure. The second problem, according to this writer's observation and opinion, has dogged Malaysian schools' computers-in-education projects for the last decade. Unless this dire need for content software is met, there is little hope that Malaysia's heavy investment in purchasing hardware and building IT infrastructure for the Smart Schools will bring about any significant improvement in teaching and learning in schools.

Conclusions

Although test scores/grades from only one class were available to provide some indications of the project's worth in improving at-risk students' achievement, the findings obtained from all the four participating teachers' anecdotal records about other positive effects are encouraging. In addition, the computer-based cooperative learning activities seemed to have provided teachers the opportunity to work with and pay more individual attention to the at-risk students who are in dire need of it. They have also increased the at-risk students' self-confidence and raised their motivational level for learning.